DOE-Mound's Land Transfer Process

Developed by:
Department of Energy -- Miamisburg Environmental Management Project,

in coordination with:
the United States Environmental Protection Agency, the Ohio Environmental Protection Agency, and the Miamisburg-Mound Community Improvement Corporation

December 1999

DOE-Mound's Land Transfer Process: Supplemental Text

INTRODUCTION

This document provides a description of the land transfer process developed by the Department of Energy-Miamisburg Environmental Management Project (hereafter referred to as DOE-Mound). The text is intended to accompany DOE-Mound's Land Transfer Process Flow Diagram (Figure 1), which consists of two separate, but interrelated processes: the Comprehensive Environmental Response Compensation and Liabilities Act (CERCLA) process and the real estate process. The first section of the supplemental text provides background necessary to understanding DOE-Mound's land transfer approach. The following sections provide detailed descriptions of each step in the land transfer process.

In addition to this text, two figures (Figures 2 and 3) are attached to provide more detail and demonstrate the interrelations of the considerations evaluated in steps 2, 3, and 5 of Figure 1.

It is important to note that at any point in the land transfer process, DOE-Mound may determine that the land transfer process should be delayed in order to address unacceptable risks to the public or prohibitive costs to DOE.

BACKGROUND

The U.S. Department of Energy (DOE) is currently in the process of cleaning up the Mound site, with the mission of transferring the land for economic redevelopment. As part of this mission, DOE has identified the future landlord of the site: the Miamisburg Mound Community Improvement Corporation (MMCIC). The MMCIC is a not-for-profit, community improvement corporation organized under Chapters 1724 and 1702 of the Ohio Revised Code. The City of Miamisburg chartered MMCIC with assisting the community in adjusting to the changes resulting from the closure of the Mound Facility by providing economic development. As such, the MMCIC has been designated as an agent of the City of Miamisburg for economic, commercial and industrial development of the Mound Site. Although not employed by the city, MMCIC works closely with the city council.

Prior to transfer of the site, DOE-Mound, the United States Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (Ohio EPA), must concur that transfer of the release block for industrial use is protective of human health and the environment. DOE and its regulators work together as a "core team" to ensure an effective means to make decisions. This core team approach is described further in the section of this document titled "Mound 2000: CERCLA Cleanup Approach."

Sales Contract

In January of 1998, DOE sold the Mound plant to MMCIC, under the authority of the Atomic Energy Act of 1954, Section 161(g), which gives DOE the independent authority to sell, lease, grant, and dispose of real and personal property [42 USC 22001(g)]. The terms and conditions of the sale are described in the Sales Contract for the Mound Facility (referred to as the Sales Contract). The Sales Contract establishes that DOE will convey the entire site to MMCIC in discrete parcels, also referred to as "release blocks." Each release block must be cleaned up pursuant to CERCLA. USEPA must formally approve the conveyance.

The Sales Contract also establishes that DOE will transfer each parcel of land via a QuitClaim deed, which is a deed without warranty. Basically, the QuitClaim deed transfers ownership of the land and establishes that MMCIC will take the land "as is" and "where is." Although the deed does not contain a warranty for the land, DOE maintains responsibility for cleanup if contamination resulting from previous DOE activities (that pose a risk to human health and the environment) is discovered in the future. However, the Sales Contract provides protection to DOE by establishing the procedures by which MMCIC can defer acceptance of a parcel of land and ensuring that any deferrals will not extend beyond DOE's exit date from the site.

As mentioned above, DOE is remediating the Mound site to an industrial use standard, agreed to by DOE, USEPA, and Ohio EPA. In other words, DOE, USEPA, and Ohio EPA determine that the property is protective of human health and the environment based on the assumption that the land will be used only for industrial use (as opposed to residential use, for example). Consequently, the Sales Contract and QuitClaim deed require that MMCIC develop the property in a manner consistent with an industrial land use.

QuitClaim Deed Versus Easements

Although DOE is transferring parcels of land to MMCIC, a number of use restrictions and access agreements must remain in place – some for the short term and others in perpetuity. DOE and MMCIC have agreed to the following approach for placing restrictions on the land to facilitate the ease by which these restrictions may be removed:

- <u>All use restrictions and access agreements that must remain in place in perpetuity are included in the QuitClaim deed, including:</u>

    - Restrictions on land use (i.e., land must not be used for residential use or farming; no day care facilities, schools, other educational facilities, community centers, playgrounds or other recreational or religious facilities for children under 18 years of age may be built).
    - Restrictions on the use of the groundwater (i.e., the owner is restricted from extracting, consuming, exposing or using in any way the groundwater underlying the premises without prior written approval from the USEPA and Ohio EPA).
    - Restrictions regarding removal of soil from the 1998 site boundaries.

- Access to the site for DOE, its agents and its regulators to conduct any needed, future response action as defined under CERCLA (e.g., remedial investigation, remedial action).

- All use restrictions and access agreements that are required due to continuing DOE operations are included in a Temporary Easement. Examples include:

  - DOE's continued use of a transferred road to continue waste shipping activities.
  - DOE access onto a transferred parcel to maintain utilities.
  - Access onto a transferred parcel for DOE, its agents, and its regulators to monitor the contributions of new owners to DOE's permitted activities.
  - Access for DOE, its agents and its regulators to air monitoring stations.

- All use restrictions and access agreements that will be required beyond the period of DOE operations at the site, but will not be required in perpetuity may be included in a Long-Term Easement. For example, DOE, its agents and its regulators may need access to the site to conduct groundwater monitoring for an extended period of time (e.g., 30 years).

The restrictions agreed to in the QuitClaim deed and in the easements are binding upon the new owner (i.e., MMCIC) and all successive owners of the site.

Memorandum of Agreement

After signing the Sales Contract, DOE and MMCIC entered into a Memorandum of Agreement (MOA) to establish their working relationship in transitioning the Mound Facility from weapons production to commercial use. Although the legal relationship between these two parties is established in the Sales Contract, the MOA establishes the intent of DOE and MMCIC to work collaboratively with each other and with DOE's regulators (i.e., USEPA and Ohio EPA) to transition the site to MMCIC. In the MOA, DOE and MMCIC have committed to jointly seeking ways to avoid costs associated with the cleanup of the site, while maintaining the integrity of the environment. They have also agreed to integrate DOE's Exit Plan (i.e., plan to clean up and exit the site) with MMCIC's Comprehensive Reuse Plan, which establishes a reasonably anticipated future land use based on the industrial use reuse of the site. The MOA establishes that DOE and MMCIC will develop a Mound Reuse Partnership Council to consider and discuss operational issues, such as how to integrate these two plans. This Council will work together in good faith to:

- Revisit building end-states,
- Revisit infrastructure end-states,
- Develop a parcel transfer plan,
- Develop a facilities demolition schedule, and
- Formalize the current process between DOE, USEPA, Ohio EPA, and MMCIC to identify the deed and other use restrictions to be imposed on the parcels of land.

MMCIC Involvement Throughout the Land Transfer Process

In the spirit of the MOA, DOE has decided to involve MMCIC throughout the land transfer process (i.e., rather than solicit their input only at points in the process where it is legally required). Consequently, MMCIC is treated as a key participant throughout the real estate and CERCLA processes. For example, DOE has agreed to provide MMCIC with documents such as the Record of Decision (ROD) and the Environmental Summary (ES) at the same time that these documents are distributed to DOE's regulators (i.e., USEPA and Ohio EPA), and prior to when DOE must legally provide these documents to MMCIC (i.e., after regulator review, when the documents are made available to the public).

Interim Utility Agreement

The Mound plant was built to operate independently of the City of Miamisburg. Consequently, the Mound facility provides its own utility services (i.e., electric, potable water, sewer, steam, and chilled water), telecommunications lines, emergency management system (e.g., fire response), and security systems. Primarily, the Interim Utility Agreement establishes:

- DOE's rates for providing utility services, the methodology for determining MMCIC's utility usage, and the schedule for billing.
- Metering, maintenance and disconnection responsibilities.
- DOE's access requirements.
- MMCIC's responsibility to comply with DOE's environmental permits.
- MMCIC's indemnification of DOE for future contamination.
- DOE's indemnification of MMCIC for past contamination.

Mound 2000: CERLCA Cleanup Process

As mentioned above, parcels of land may not be transferred to MMCIC until USEPA and Ohio EPA concur that the parcel is protective of human health and the environment under an industrial land use scenario. DOE's site cleanup process is in accordance with CERCLA and described in the *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach* (February 1999).

The Mound 2000 approach to cleanup of the Mound site established a "core team" to ensure an effective means for DOE and its regulators to work together. The core team consists of representatives from DOE-Mound, USEP, and Ohio EPA. The primary responsibilities of the core team are to identify environmental problems at the site, determine what type of action is required to address each environmental problem, and determine when remediation is complete (i.e., protection of human health and the environment has been achieved). In order to make these decisions, the core team works with and receives input from the project team, comprising technical experts from both the contractor and DOE.

Originally DOE and its regulators planned to address the plant's environmental restoration issues under a set of Operable Units (OUs), following the traditional approach under CERCLA. Each OU would include a number of Potential Release Sites (PRSs), which are discrete areas where knowledge of historic or current use indicates that the site may have released radioactive and/or hazardous materials into the environment. DOE and its regulators would then select a remedy to address all of the PRSs that posed an unacceptable risk to human health and the environment within the OU. However, after initiating remedial investigations for several OUs, DOE and its regulators realized that, for Mound, the OU approach was inefficient. The assumption underlying an OU approach is that the problems within an area at a site are interrelated and should be addressed, consequently, as a unit. At Mound, the environmental problems are discrete and not interrelated. So, rather than applying an OU approach, DOE and its regulators agreed that it would be more appropriate and more efficient to evaluate each PRS, or building, separately and use DOE's removal action authority to remediate the PRSs and buildings as needed.

The Mound 2000 process entails the core team evaluating each PRS based on existing site information. Based on that information, the core team determines one of the following:

- The PRS is not a site problem and No Further Action (NFA) is required,
- The PRS is a site problem and action is needed, or
- Existing information is not sufficient to determine whether or not the PRS is a site problem.

If a PRS is a site problem, the core team must determine what action is necessary to address that problem and agree upon the appropriate cleanup levels. After the removal action is complete, the core team evaluates all data for that PRS, including the verification reports conducted following remediation, to determine if NFA is required.

If existing information is not sufficient to determine whether or not a PRS is a site problem, the core team identifies what data are needed to make that decision. Then, the core team determines whether it is more cost effective to collect that data or simply assume that the PRS is a problem requiring action. If the core team determines that it is more cost effective to assume that the PRS is a problem requiring action, the removal action is conducted as described above. If the core team determines that it is more cost effective to collect the required data, these data are collected and the core team evaluates the PRS using this new information.

The Land Transfer Process (see Figure 1) begins at the point that the core team has evaluated all PRSs and buildings within a release block, all required actions designated by the core team have been completed, and the core team has determined that NFA is required at any PRS or for any building within the defined release block, pending the Residual Risk Evaluation (RRE). A release block is a parcel of land that DOE-Mound plans to transfer to MMCIC. The boundaries of release blocks were originally defined based on DOE's professional judgment (including assumptions of when remedial actions

would be complete and which parts of the site DOE would need for continued operations). These "historic" boundaries provide a definition of release blocks that should be updated, based on current information and professional judgment, in Step 1 of the land transfer process.

As described in detail in the supplemental text to the land transfer process, even though the core team determines that NFA is required at any individual PRS within a release block, the possibility remains that residual contaminants at multiple PRSs within a release block will cumulatively pose an unacceptable risk to human health and the environment. The purpose of the RRE, therefore, is to evaluate the cumulative impact of residual contamination within a release block to ensure that the parcel as a whole does not pose an unacceptable risk to human health and the environment. The RRE and the remaining steps of the CERCLA process are described as part of the Land Transfer Process (see page 15).

NEPA Review Process

DOE must also complete a National Environmental Policy Act (NEPA) review as required under 10 CFR 1021. NEPA requires federal agencies to evaluate impacts prior to taking action. DOE relies on the CERCLA process for a review of actions taken under CERCLA to meet environmental objectives of NEPA [per the Secretarial Policy for NEPA, Section E, dated June 1994]. Then, DOE supplements its CERCLA review with any additional, necessary NEPA evaluations. Prior to transferring the land, USEPA and Ohio EPA must concur that DOE has met its NEPA review requirements.

LAND TRANSFER PROCESS

Real Estate Process

Step 1: Based on Current Information, Create or Modify Boundary as Necessary. DOE and MMCIC modify the boundary based on information including, but not limited to:

- Needs based on ongoing environmental restoration activities (e.g., monitoring, waste transport, physical space for equipment or waste storage) in this or other release blocks.
- Previous environmental actions [e.g., if removal actions at a PRS demonstrate that the contamination associated with that PRS extended further than anticipated in a lateral direction, DOE may want to modify the boundary so that the PRS is not split into two release blocks– a subdivided PRS would make conducting the RRE difficult].
- MMCIC desires buildings to be transferred earlier than scheduled based on economic redevelopment possibilities.

It is important to recognize that as the land transfer process continues beyond this step, it becomes more and more costly and time consuming to modify the boundary. Changing the boundary later in the process may constitute re-doing the RRE, rehiring a surveyor to

legally define the boundaries (i.e., redevelop metes and bounds), and conducting additional removal actions based on the re-defined boundary. These actions will increase costs, delay schedules, and likely interfere with MMCIC's schedule requirements for obtaining the land in order to receive grants for economic redevelopment of the release block.

By modifying the historic boundary or accepting it, DOE establishes the preferred boundary. Proceed to Step 2.

Note: The required starting point for the land transfer process is that the core team has agreed that NFA is required for any PRSs or buildings within the release block. Therefore, if the modified boundary results in the release block containing PRSs or buildings that have not been designated as NFA by the core team, DOE is not ready to begin the land transfer process.

Step 2. Are there challenges to land transfer associated with the real estate process?

For the purposes of this process flow diagram, *challenges to land transfer* are defined as:

- Infrastructure Issues (e.g., utilities, access to roadways and parking lots)
- Cultural Resource Management Issues (e.g., buildings of historical significance)
- Land Management Issues (e.g., wetlands, floodplains)
- Environmental Monitoring and Permit Requirement Issues (e.g., air permits, NPDES permit, groundwater monitoring)
- Security Requirement Issues (e.g., perimeter, peripheral neighboring buildings)
- Safety Analysis Issues (e.g., emergency management, explosive operations)

For the release block, DOE and MMCIC identify if any of the above *challenges to land transfer* exist. Evaluation of these *challenges* should be based on existing sources of information at the site, including (but not limited to) computer mapping tools (e.g., GIS), groundwater and air monitoring plans, maps of utility lines and manholes, as-built drawings, and DOE's needs based on continued operation at the site.

As part of their evaluation, DOE and MMCIC analyze specific considerations for each category of *challenges* and identify possible corresponding courses of action (i.e., notifications, legal agreements, physical modifications to the land, training, and/or modified protocols) to address each *challenge to land transfer*.

Note: The possible action steps are discussed in this step (Step 2); however, the decision about which actions are implemented does not occur until Step 6.

It is important to note that the considerations for each category are interrelated (see Figure 2). Therefore, DOE may need to evaluate and re-evaluate the decisions in each category depending on the impact of other considerations. Thorough evaluation of this step is imperative to cost and resource savings in the future.

Note: For each category described below, an example of the evaluation of the *challenge to land transfer* is provided. However, all considerations and all potential action alternatives to address these issues (i.e., notifications, legal agreements, physical modifications, training and/or protocol requirements) are not discussed. Instead, refer to Figure 3, which contains a detailed breakout of all considerations and corresponding potential action alternatives to address each *challenge to land transfer*.

ISSUE CATEGORY: Infrastructure Issues

Example: Utilities. DOE must determine if the release block is served or traversed by any Mound utilities. In this instance, utilities include electricity, sanitary/storm sewer, telephone, alarm system, steam, potable water, brine/chilled water, fire water, fire hydrant, and gas. Assuming one of the aforementioned utilities is served by Mound, DOE and MMCIC determine whether the service will continue to be maintained. If any of the utilities are continuing to be maintained, DOE may need to modify the DOE/MMCIC Utility Agreement and include access stipulations in the Temporary Easement.

Example: Access to roadways and parking lots. If the release block includes roads or parking lots, DOE must determine if they will require access to them for reasons such as waste transfer, security, utilities, and emergency management. If so, DOE may need to stipulate access in the Temporary Easement and/or negotiate with MMCIC who is responsible for road and parking lot maintenance (e.g., snow removal, lighting, weeding, painting, repairs).

ISSUE CATEGORY: Cultural Resource Management Issues

Example: Historically significant or sacred resources. DOE must determine if the release block contains historically significant or sacred resources. If the release block does have such resources, then DOE must disclose their presence to MMCIC and identify any related restrictions that need to be incorporated in the deed or an easement.

ISSUE CATEGORY: Land Management Issues

Example: Wetlands. Per 10 CFR 1022, DOE must determine if a jurisdictional wetland is located within the release block. Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation adapted for such conditions. If a wetland is located in the release block, MMCIC will not be permitted to disturb this land without the required approval and permits. Consequently, DOE must disclose the presence of a wetland to MMCIC.

Example: Floodplains. Similarly, per 10 CFR 1022, DOE must determine if the release block lies in a floodplain. Floodplains are considered relatively flat, lowland areas adjoining inland and coastal waters which have a one percent or greater chance of being exceeded in any given year (also known as 100-year flood). If the release block (or a

portion thereof) lies within a floodplain, DOE must disclose the presence of the floodplain to MMCIC or decide to withhold that portion from conveyance.

ISSUE CATEGORY: Environmental Monitoring and Permit Requirement Issues

Example: Air and groundwater monitoring. DOE assesses whether groundwater monitoring wells or air monitoring stations are located on the release block. If monitoring wells or stations exist in the release block, DOE will determine if they present an issue that requires legal agreements or physical modifications. For example, if ongoing operations require DOE or Ohio EPA to have access to groundwater wells or air monitoring stations, DOE may need to stipulate this access requirement in a Temporary Easement.

Example: Permit requirements. The Clean Air Act (CAA), Clean Water Act (CWA), and Resource Conservation and Recovery Act (RCRA) impact DOE decisions, and corresponding actions, in the land transfer process. Therefore, DOE evaluates the release block to determine if the transfer impacts any air, water, or RCRA permit restrictions. For example, if the transfer of the release block will affect the current air permit, DOE may need to coordinate with the permitting agency to terminate, modify, or reassign the permit.

Note: These actions steps will depend on whether Ohio EPA will accept modifications to the air, water, and RCRA permits.

ISSUE CATEGORY: Security Requirement Issues

Example: Security requirements. DOE evaluates the continuing operations to ensure the land transfer will not breach security. For example, if the parcel transfer diminishes site security on the perimeter, DOE may need to build a fence and/or guard post to ensure the area remains inaccessible to unauthorized individuals. Then again, DOE and MMCIC may devise alternate ways to ensure the site perimeter is secure (e.g., issue security badges to new owners of the transferred parcel to monitor access).

ISSUE CATEGORY: Safety Analysis Issues

Example: Emergency management. Based on a sitewide hazard assessment, DOE needs to determine if there is an increase in risk to the public or to the general employees (DOE, new owner, leasees) if the parcel is transferred. Assuming an increase in risk is identified, DOE must take appropriate steps to ensure proper emergency response. Currently, DOE maintains its own emergency management crews (e.g., fire), equipment, and protocols. MMCIC will not rely on all of DOE's emergency management capabilities. Instead, MMCIC must coordinate with the City of Miamisburg to be incorporated into their emergency response system. However, because DOE cleanup operations are ongoing, there is a possibility that DOE and MMCIC would have to coordinate emergency management systems and protocols. For example, if DOE must evacuate the site due to an environmental release, MMCIC must be connected to the

emergency intercom announcement system and understand warning sirens. Consequently, DOE and MMCIC must assess the current system for addressing sitewide hazards and emergencies and determine if the land transfer diminishes their abilities to respond to emergency situations. If so, various actions may be required. For example, DOE may need to modify their emergency management protocol; MMCIC may need to coordinate training and education of City emergency management crews so that they can respond to possible future emergencies at the site.

Example: Explosive operations. DOE must determine if there are risks due to fragment arcs and clearance zones (either risks to the new owner because of DOE activities or risks to DOE from the new owner's activities). If fragment arcs and clearance zones present an unacceptable risk, DOE may need to construct a barricade to prevent disbursement of fragments. DOE may also restrict or alter the new owner's explosive activities.

After evaluating *challenges to land transfer* associated with each of the above categories and determining if issues in each category impact other categories, DOE makes the following decisions:

- Overall, if there ARE *challenges to land transfer* that necessitate notifications, legal agreements, physical modifications, training, and/or modifying protocols prior to transferring the release block, proceed to Step 3.
- If there are NO *challenges to land transfer* that necessitate notifications, legal agreements, physical modifications, training, and/or modifying protocols prior to transferring the release block, *the preferred boundary may become the final boundary* (pending decisions made as part of the CERCLA process, see Steps A-L). Skip to Step 4.

Step 3. Is it more feasible to modify the boundary than to address *challenges to land transfer* with notifications, legal agreements, physical modifications, and/or training/protocol modifications? In Step 2, DOE and MMCIC identify *challenges to land transfer* and possible action steps to address those issues (e.g., legal agreements, physical modifications to the land). In this step, DOE and MMCIC must determine which is more feasible:

1. To modify the boundary (i.e., to resolve *challenges to land transfer* by defining a new boundary), or
2. To address *challenges to land transfer* through notifications (e.g., disclosure to MMCIC that wetlands are situated in the release block and must not be disturbed), legal agreements (e.g., easement requirements, permit modifications), physical modifications (e.g., build a fence, construct additional guard posts), and/or training/protocol modifications (e.g., training for City of Miamisburg emergency management personnel so that they can respond to emergencies on transferred land), identified in Step 2.

In determining which of these two paths forward is "more feasible," DOE must *first* evaluate alternatives against the requirement to protect human health and the

environment and maintain national security. If both modifying the boundary and implementing action steps (i.e., notifications, legal agreements, physical modifications, or training/protocol modifications) ensure these protections, DOE evaluates the potential paths forward based on cost-effectiveness and timeliness. However, if one of the alternatives does not provide adequate protection of human health and the environment, or if it does not adequately protect national security, this alternative cannot be selected.

Note: DOE may also determine that the land transfer process should be delayed in order to address unacceptable risks to the public or prohibitive costs to DOE.

If it is more feasible to modify the boundary, go to Step 3a.

If it is more feasible to address *challenges to land transfer* through notifications, legal agreements, physical modifications to the land, and/or training/protocol modifications, then *the preferred boundary may become the final boundary* (pending decisions made as part of the CERCLA process, see Steps A-L).

Proceed with two steps, which may occur simultaneously:

- Go to Step 4: Develop Metes and Bounds AND
- Go to Step 5: Define Notifications, Legal Agreements, Physical Modifications, and/or Training/Protocols.

Step 3a. Modify the Preferred Boundary. Based on DOE and MMCIC concurrence, DOE modifies the preferred boundary to eliminate those *challenges to land transfer* identified in Step 2. Because the preferred boundary is now different than previously evaluated, it is necessary for DOE and MMCIC to revisit the evaluation of *challenges to land transfer* in Step 2. In re-evaluating Step 2, DOE and MMCIC must determine: 1) how this new boundary affects the previous evaluation, and 2) if any new issues must be resolved. Return to Step 2.

Note: Modifying the boundary also impacts the CERCLA evaluation, which is conducted concurrently with the real estate evaluation. Because the preferred boundary is now different than previously evaluated, it is necessary for DOE to return to Step A of this process.

Step 4. Develop Metes and Bounds (i.e., Legal Description) of the Release Block.

Note: This step may occur concurrently with Step 5.

Metes and bounds descriptions (*metes* refers to directions and distances, *bounds* refers to monuments, both physical and legal), describe the geometry of the perimeter of a parcel of land. DOE uses a metes and bounds description to develop the legal description (i.e., title description) of each of its release blocks.

DOE is required to develop a legal description of each release block; in other words, DOE must describe the parcel of land comprising the release block in a way that uniquely, without ambiguity describes only the subject parcel. Development of metes and bounds is also important so that the legal description may survive through time, or be composed in such a way that it is not dependent on elements that may not be available in the future.

To implement this step, DOE hires a certified surveyor to develop the metes and bounds. Following this, MMCIC must file the metes and bounds with the County as the legal description of the release block.

Note: The legal description of the release block is included as an attachment in:

1. Any required easements (developed in Step 7),
2. The QuitClaim Deed (developed in Step 10), and
3. The Record of Decision (developed in Step I), because this document contains, as an attachment, an unsigned QuitClaim Deed.

Step 5. Define Notifications, Legal Agreements, Physical Modifications, Training, and/or Protocol Requirements.

Note: This step may occur concurrently with Step 4.

In Step 2, DOE and MMCIC determine if any *challenges to land transfer* exist that may be addressed through notifications, legal agreements, physical modifications, training, and/or protocol modifications. In Step 3, DOE and MMCIC decide if it is more feasible to address those issues through action steps. Therefore, at this point in the process, DOE and MMCIC have determined which *challenges to land transfer* must be addressed with action steps. In this step, DOE defines exactly what notifications, legal agreements, physical modifications, training, and/or protocol modifications are required to transfer of the release block.

For example, if DOE, USEPA or Ohio EPA needs continued access to monitor groundwater, DOE must stipulate these requirements in an easement. If transfer of the release block changes the perimeter of the site and DOE must continue to ensure security, then DOE may require MMCIC to build a fence. If DOE must allow new owners access through secured areas (i.e., areas that DOE maintains control over), DOE may need to modify security protocols. Figure 3 provides the possible action steps that may be required, organized by category of *challenges to land transfer*. Examples of these action steps have are also discussed in Step 2.

- If DOE must prepare notifications (e.g., provide disclosure of the presence of wetlands, floodplains, and/or cultural resources, provide notifications to Ohio EPA regarding permits), proceed to Step 6.

- If DOE must prepare legal documents (e.g., prepare a Temporary Easement; modify, reassign or terminate existing permits), proceed to Step 7.

- If DOE or MMCIC must make any physical modifications to the site (e.g., build a fence, build a guard post, remove a groundwater monitoring well or air monitoring station, make a new entrance to the site), proceed to Step 8.

- If DOE must conduct training or modify site protocols (e.g., train MMCIC on the meaning of various emergency signals, modify security protocols to allow access through secured areas to new owners), proceed to Step 9.

A release block may need any combination of these requirements to address *challenges to land transfer*. Steps 6, 7, 8, and 9 all can occur in any order or simultaneously.

Step 6. Prepare Notifications. Based on the decisions reached in Step 5, DOE prepares necessary notifications. For example, if the release block contains a wetland area, a floodplain, or cultural resource, DOE must notify MMCIC of their presence. In addition, DOE may need to notify Ohio EPA regarding new owners contributions to existing environmental permits.

Note: All notifications regarding existence of wetlands, floodplains, cultural resources, or safety concerns are included in the Environmental Summary (ES) in Step J.

After drafting notifications, proceed to Step 7, 8 or 9; if all required actions are complete, proceed to Steps 10 and 11/L.

Step 7. Prepare Legal Agreements. Based on the decisions reached in Step 5, DOE prepares necessary legal agreements. For example, easements are required to stipulate continued access onto a transferred release block. Typically, DOE prepares a Temporary Easement for access requirements due to ongoing operations (e.g., to access air monitoring stations, to maintain utilities, to continue shipping waste offsite on a road transferred as part of the release block). DOE may also prepare a Long-Term Easement for activities that continue beyond operation, but not in perpetuity (e.g., access to well for monitoring of groundwater). Another example of an action that may occur as part of this step is modifying, reassigning, or terminating the air, water, or RCRA permit.

Note: The easement must contain the legal property description developed in Step 4.

After drafting legal agreements, proceed to Step 6, 8 or 9; if all required actions are complete, proceed to Steps 10 and 11/L.

Step 8. Implement Physical Modifications. Based on Step 5, DOE or MMCIC implements required physical modifications to the land. Examples include building a fence, constructing a guard post, and abandoning unneeded monitoring wells (i.e., remove or fill).

After implementing physical modifications, proceed to Step 6, 7 or 9; if all required actions are complete, proceed to Steps 10 and 11/L.

Step 9. Identify Training / Protocol Requirements. Based on Step 5, DOE and MMCIC may determine that training or modified site protocols are necessary. In this step, DOE and MMCIC must identify training and protocol requirements, and determine the schedule for implementation. Examples of training include teaching DOE's emergency signal system to MMCIC. MMCIC may need to coordinate training the City of Miamisburg emergency management personnel so that they are familiar with release blocks transferred from the Mound Site. An example of a modification to site protocol is developing the process – including badge requirements and visitor requirements– for MMCIC to have access through a secured area to the transferred land.

Note: Implementation of these required actions may occur following land transfer.

After identifying training and protocols requirements, proceed to Step 6, 7 or 8; if all required actions are complete, proceed to Steps 10 and 11/L.

Step 10. Prepare QuitClaim Deed. DOE prepares the QuitClaim Deed. This document contains or refers to:

- Language, applicable to all release blocks, that dictates terms and conditions for the transfer of land. DOE, USEPA, Ohio EPA, Ohio Department of Health (ODH), and MMCIC legal counsel have already approved this "boilerplate" language as part of finalizing the QuitClaim deed for the transfer of Parcel D in March 1999. For example, the same language was used to develop the QuitClaim Deed for Parcel H in August of 1999.
- Restrictions required under CERCLA to ensure that the release block is protective of human health and the environment (i.e., as addressed in the Record of Decision).
- The legal description of the release block, as defined by the metes and bounds.
- A notice of hazardous substances that have been stored for one year or more or disposed of on the release block and the dates that the storage and/or disposal took place, based on a complete search of DOE files and records.
- Description of remedial action taken prior to the transfer.
- A covenant that all necessary remedial actions have been taken, and that all necessary future actions (due to contamination from previous DOE activities) will be taken by DOE.

The preparation of the QuitClaim Deed, consequently, requires input from Step 4 (Develop Metes and Bounds) and from the CERCLA process. For instance, the QuitClaim Deed must contain all restrictions required in the Final ROD. Consequently, until USEPA, Ohio EPA, and DOE sign the ROD (Step I), the QuitClaim Deed cannot be completed. Then, USEPA, Ohio EPA, ODH, the DOE real estate specialist, and legal council from DOE and MMCIC must concur that the QuitClaim Deed incorporates all requirements in the ROD and in other legal requirements. After these approvals, the QuitClaim Deed may be finalized. Go to Step 11/L.

CERCLA Process Requirements

Step A. Publicize Boundary for Release Block and Solicit Comments. Once DOE determines that they would like to transfer a release block to MMCIC, DOE publicizes to its employees the proposed boundary for the release block and solicits comments. The purpose of this step is to ensure that all possible areas where environmental releases may have occurred are investigated and evaluated. Employees of the site may have anecdotal knowledge of spills or contamination. Although DOE has previously solicited these anecdotal stories, and the entire site has been characterized as part of the remedial investigation, DOE is taking another precautionary step prior to transferring the land. By publicizing the release block boundary and soliciting comments from its employees, DOE ensures that all potential release sites within the release block have been identified. Once this is done, DOE is ready to proceed to Step B.

Step B. Gather information for Residual Risk Evaluation (RRE). Prior to this step, DOE and its regulators have evaluated each individual PRS and contaminated building within the release block to determine if remedial action is needed to protect human health and the environment. All required actions have been completed and DOE and the regulators concur that no further action is required at any individual PRS or building. In other words, the core team agrees that no individual PRS or building poses an unacceptable risk to human health and the environment. However, the possibility remains that residual contaminants at multiple PRSs within a release block will cumulatively pose an unacceptable risk to human health and the environment. The purpose of the RRE, therefore, is to evaluate the cumulative impact of residual contamination within a release block to ensure that the parcel as a whole does not pose an unacceptable risk to human health and the environment.

The first step in the RRE process is to collect all data relevant to residual contamination levels within the release block (as defined in the Final Residual Risk Evaluation Methodology, January 6, 1997). In general, all information that qualitatively and quantitatively describes the residual contamination levels within the release block must be collected.

The type of information that should be collected includes, but is not limited to:

- Original PRS packages (containing all existing information about a PRS) that the core team evaluated to determine whether the PRS was a site problem.
- Reports of all sampling that may have been undertaken to assist the core team in categorizing ("binning") PRSs as either requiring NFA or requiring action.
- Any calculations made to estimate the potential for leaching of contaminants from the soil to the groundwater (e.g., "leaching equation" results).
- Close-out documentation for PRSs that underwent removal actions (including verification sampling).
- Original building binning package that the core team evaluated to determine whether decontamination of the building was required.

- Close-out documentation for buildings that underwent demolition (including soil verification sampling).
- Data from the site's GIS system.

The core team has determined that the following historical sampling data are not appropriate for conducting the RRE:

- Historic FIDLER measurements, because the FIDLER readings are influenced by many physical factors (e.g., distance from the soil to the instrument) that render the measurement an approximation too imprecise for use in the RRE.
- PETREX data because contamination is measured in relative rather than absolute quantities.
- Soil concentrations that have been "back-calculated" from soil gas measurements.

After DOE gathers all required data for the RRE, proceed to Step C.

Step C. Conduct *Qualitative* RRE Analysis. Because conducting the formal RRE is a time-consuming and expensive process, the purpose of this step is to minimize the possibility that DOE will have to conduct two RREs. If, based on the calculations conducted for the RRE in Step E (the formal RRE), the land is not protective of human health and the environment, DOE will be required to take further action before the land can be transferred. After this additional action is complete, DOE must conduct another RRE to ensure that site conditions are now protective of human health and the environment. Consequently, prior to conducting the formal RRE (in Step E), the core team should conduct a *qualitative* evaluation of the data gathered in Step B to determine if further action, due to an unacceptable risk to human or ecological receptors, is likely.

DOE, in consultation with USEPA and Ohio EPA, determines what type of evaluation is appropriate. This may be an informal review of data, or it may include running some, or all, of the calculations required as part of the formal RRE.

Proceed to Step D.

Step D. Does the qualitative RRE analysis indicate that further action will be required? If DOE, USEPA, or Ohio EPA believe, based on the evaluation conducted in Step C, that further action will be needed to protect human health and the environment, the core team must meet to determine the appropriate path forward. The core team defines the problem(s) requiring additional action and determines what action is required to ensure that protection of human health and the environment has been achieved. In addition, the core team must define the action objectives (i.e., define when additional action is complete). Proceed to Step D1.

If the core team does not believe that further action will be required to protect human health and the environment, proceed to Step E.

Step D1. Take Necessary Action Based on Core Team Direction. Based on core team direction [i.e., what the problem(s) is (are), what additional action is required to address the problem, and when action is complete], DOE conducts the necessary action.

Once DOE verifies that the action has successfully addressed the defined problem(s), DOE develops a close-out report. Ohio EPA and USEPA must concur that the objectives of the removal action have been met. All data collected to verify that additional action has met its objectives (documented in the close-out report) should be included in the RRE evaluation (Step E). Following regulatory concurrence, DOE may proceed to Step E.

Note: The core team may determine that the appropriate action is to modify the boundary so that the problem area(s) is (are) not contained within the release block. However, modifying the boundary also impacts the real estate evaluation, which is conducted concurrently with the CERCLA evaluation. If DOE modifies the boundary, it will be necessary for DOE and MMCIC to revisit the evaluation of *challenges to land transfer* in Step 2. In re-evaluating Step 2, DOE and MMCIC must determine: 1) how this new boundary affects the previous evaluation, and 2) if any new issues must be resolved. DOE may also determine that the land transfer process should be delayed in order to address unacceptable risks to the public or prohibitive costs to DOE.

Step E. Conduct RRE. DOE is responsible for conducting and documenting the RRE for each release block, following the procedure in the Final Residual Risk Evaluation Methodology (January 6, 1997). If DOE, USEPA, or Ohio EPA determine that it is appropriate, this step may also include an ecological risk assessment. In the RRE, DOE must quantify the risk for both carcinogenic and non-carcinogenic contaminants. The risk associated with the intake of a known or suspected carcinogen is reported in terms of the incremental lifetime cancer risk presented by each Contaminant of Concern (COC). USEPA has set the acceptable range of risk as 10^{-4} to 10^{-6}. Potential human health hazards from exposure to non-carcinogenic contaminants are evaluated by using a Hazard Quotient (HQ). The HQ is determined by the ratio of the intake of a COC to a reference dose or concentration for the COC that is believed to represent a no-observable effect level. The COC-specific HQs are then summed to provide an overall Hazard Index (HI). USEPA guidance sets a limit of 1.0 for the Comprehensive HI.

Proceed to Step F.

Step F. Is the release block protective of human health and the environment?
As part of Step E, DOE drafts a Release Block RRE Report that summarizes the evaluation conducted. This draft Release Block RRE Report is provided to Ohio EPA, USEPA, and MMCIC for a 30-day review.

Based on the RRE, the core team must determine if the release block is protective of human health and the environment (assuming that the future land use will remain industrial). The acceptable range of overall risk is 10^{-4} to 10^{-6} for carcinogens and a HI of less than 1.0 for non-carcinogenic contaminants.

If the core team determines the release block poses an unacceptable risk to human health and the environment, the core team must define the problem(s) requiring additional action and determine what action is needed to address the problem(s). In addition, the core team must define the action objectives (i.e., define when additional action is complete). Proceed to Step F1: Take Further Action Based on Core Team Direction.

If the RRE demonstrates that the release block is protective of human health and the environment and the regulators (i.e., USEPA and Ohio EPA) concur with the report, DOE must provide the Draft Report to the public for a 30-day review. After adequately addressing and responding to MMCIC and public comments, DOE modifies the report as needed and finalizes it. Proceed to Step G.

Step F1. Take Further Action Based on Core Team Direction. Based on core team direction (i.e., what the problem is, what additional action is required to address the problem, and when action is complete), DOE conducts the necessary action. Once DOE verifies that the action has successfully addressed the defined problem, DOE develops a close-out report. Ohio EPA and USEPA must concur that remedial action objectives have been met. Following regulatory concurrence, DOE must return to Step E and all data collected to verify that action has met its objectives (documented in the close-out report) should be included in the RRE.

Note: The core team may determine that the appropriate action is to modify the boundary so that the problem areas are not contained within the release block. However, modifying the boundary also impacts the real estate evaluation, which is conducted concurrently with the CERCLA evaluation. If DOE modifies the boundary, it will be necessary for DOE and MMCIC to revisit the evaluation of *challenges to land transfer* in Step 2. In re-evaluating Step 2, DOE and MMCIC must determine: 1) how this new boundary affects the previous evaluation, and 2) if any new issues must be resolved. DOE may also determine that the land transfer process should be delayed in order to address unacceptable risks to the public or prohibitive costs to DOE.

Step G. Prepare Draft Proposed Plan (PP) and Fact Sheet. DOE is responsible for preparing the Draft Proposed Plan and the Fact Sheet. The PP contains the proposed decision (i.e., preferred alternative) for the release block and the rationale behind that decision. Consistent with the National Contingency Plan (NCP) and DOE-Mound's Federal Facility Agreement (FFA), Ohio EPA and USEPA must have 30 days to review the document and either concur or provide comments. At this time, DOE also chooses to provide the PP to MMCIC. If Ohio EPA and USEPA do not concur with the document, DOE must revise the PP to address their concerns. DOE may also need to revise the PP based on comments from MMCIC.

The Fact Sheet is a short document (e.g., 4 pages) that announces the PP, explains the CERCLA process in simple terms, and summarizes the preferred alternative for the release block. The Fact Sheet also highlights important dates (e.g., public comment period, public meeting) and summarizes the site characteristics for the release block and potential risks.

After Ohio EPA and USEPA concur with the PP and the Fact Sheet, go to Step H.

Step H. Provide Public with PP and Fact Sheet. Consistent with the NCP, DOE must provide the PP to the public for a 30-day review. At the same time that DOE releases the PP, DOE also disseminates the Fact Sheet to facilitate the public's understanding of the CERCLA process and the preferred alternative. During the public review period, DOE must hold a public meeting to solicit comments on the PP. DOE must formally record this meeting (i.e., hire a stenographer to transcribe all discussions and comments or videotape the meeting). Based on core team consensus, DOE either modifies the preferred alternative and/or the text of the ROD as a result of public comments or explains why these comments have not been incorporated. Regardless, the core team then responds to stakeholders by letter and also documents the comments and responses in the ROD.

Proceed to Step I. (***Note:*** DOE may also chose to begin work on Step J at this time.)

Step I. Draft and Finalize the Record of Decision (ROD).

DOE prepares the draft ROD to document the remedy selected for the release block. The ROD contains:

- *A declaration* section. This section summarizes the information presented in the ROD, provides a checklist to certify that key information regarding the selection of the remedy has been included in the ROD, and includes a signature page to formalize USEPA and Ohio EPA approval of the final ROD.
- *A decision summary* to provide an overview of the site, the evaluated alternatives, the selected remedy, and the basis for its selection.
- *A responsiveness summary*, which presents stakeholder concerns about the release block (provided during the public review period and the public meeting on the PP) and explains how those concerns were addressed prior to issuance of the ROD.

The final ROD also contains, as appendices, an unsigned QuitClaim Deed (developed in Step 10) and the legal description of the site (i.e., the metes and bounds developed in Step 4).

Per the NCP and DOE-Mound's FFA, DOE must provide USEPA and Ohio EPA with the ROD for a 30-day review. DOE also chooses to provide MMCIC with the ROD at the same time. If DOE's regulators do not concur with the ROD, DOE must revise it to reflect the regulators' comments. DOE may also modify the ROD to address MMCIC comments.

DOE, Ohio EPA, and USEPA must all approve and sign the ROD before it is final. The final ROD is placed in the public reading room.

Proceed to Step J.

Step J. Draft and Finalize the Environmental Summary (ES).

DOE prepares an ES to fulfill requirements under both the CERCLA and the land transfer processes. Consequently, the ES fulfills both the full disclosure requirements promulgated under section 120(h) of CERCLA and the due diligence requirements for real estate transfer.

The ES contains, by attachment or reference, the following:

- *Property description* (including a legal description based on the metes and bounds).
- *Summary of historical uses* of the land.
- *Environmental findings*. Per CERCLA 120 (h), this section must include, to the extent that information is available based on a complete search of DOE files: 1) the type and quantity of hazardous substances stored, disposed of, or released; 2) a notice of the time at which storage disposal or release took place; and 3) description of any remedial action taken.
- *Summary of other factors considered*, based on DOE's generic checklist for transferring land. This includes evaluation of cultural resources, drinking water quality, endangered species, fragment arcs (due to explosive operations), monitoring equipment, evaluation under the National Environmental Policy Act, and regulated units under the Resource Conservation and Recovery Act.
- *Finding of suitability to transfer the land (FOST)*, including a description of any deed restrictions that will be imposed on the property to maintain protection of human health and the environment.
- *Notifications* (e.g., disclosure of wetlands, floodplains, cultural resources) identified in Step 6.
- *The Final Record of Decision*.

Consistent with the NCP and DOE-Mound's FFA, DOE must provide the ES to USEPA and Ohio EPA for a 30-day review. At this time, DOE also provides the ES to MMCIC for review. If DOE's regulators believe that additional information must be included in the ES, DOE must revise the ES to reflect the regulators comments. DOE may also need to revise the ES based on comments from MMCIC. If the regulators concur that the ES contains all appropriate information, DOE finalizes the ES and places it in the public reading room.

Proceed to Step K.

Step K. Request and Receive Approval from USEPA for Land Transfer. Per CERCLA 120 (h), DOE must request and receive approval from USEPA prior to land transfer. DOE sends a letter to the administrator of USEPA requesting approval for land transfer. DOE also sends a carbon copy of the letter to Ohio EPA. If USEPA does not approve the transfer, DOE must address all of USEPA's concerns and then request approval to transfer again. If USEPA approves transfer, proceed to Step 11/L.

Step 11/L. Transfer the Release Block. (Step 11 of the Real Estate Process and Step L of the CERCLA Process.) Once DOE and its regulators approve the ROD and the ES, and after DOE has received approval from USEPA for land transfer (Step K), DOE may transfer the land to MMCIC. The land is transferred when DOE and MMCIC execute the QuitClaim Deed and any necessary easements and DOE turns over the ES to MMCIC.

Post Transfer Activities.

Following transfer of the release block, there are a number of activities that must be completed:

- DOE provides a letter to USEPA and Ohio EPA as a courtesy notification of the title conveyance.
- DOE provides all intellectual property pertaining to the release block to MMCIC. Examples of intellectual property include blueprints of buildings in the release block, maps of utility lines, maps of roads and parking lots.
- MMCIC must submit property subdivision to the City of Miamisburg planning commission for approval and record the deed with the County.
- After the deed has been recorded, MMCIC provides a courtesy notification to DOE, USEPA, and Ohio EPA that the deed has been recorded with the County.
- DOE and MMCIC must conduct required training or modify protocols as identified in Step 9.

FIGURE 1: LAND TRANSFER PROCESS

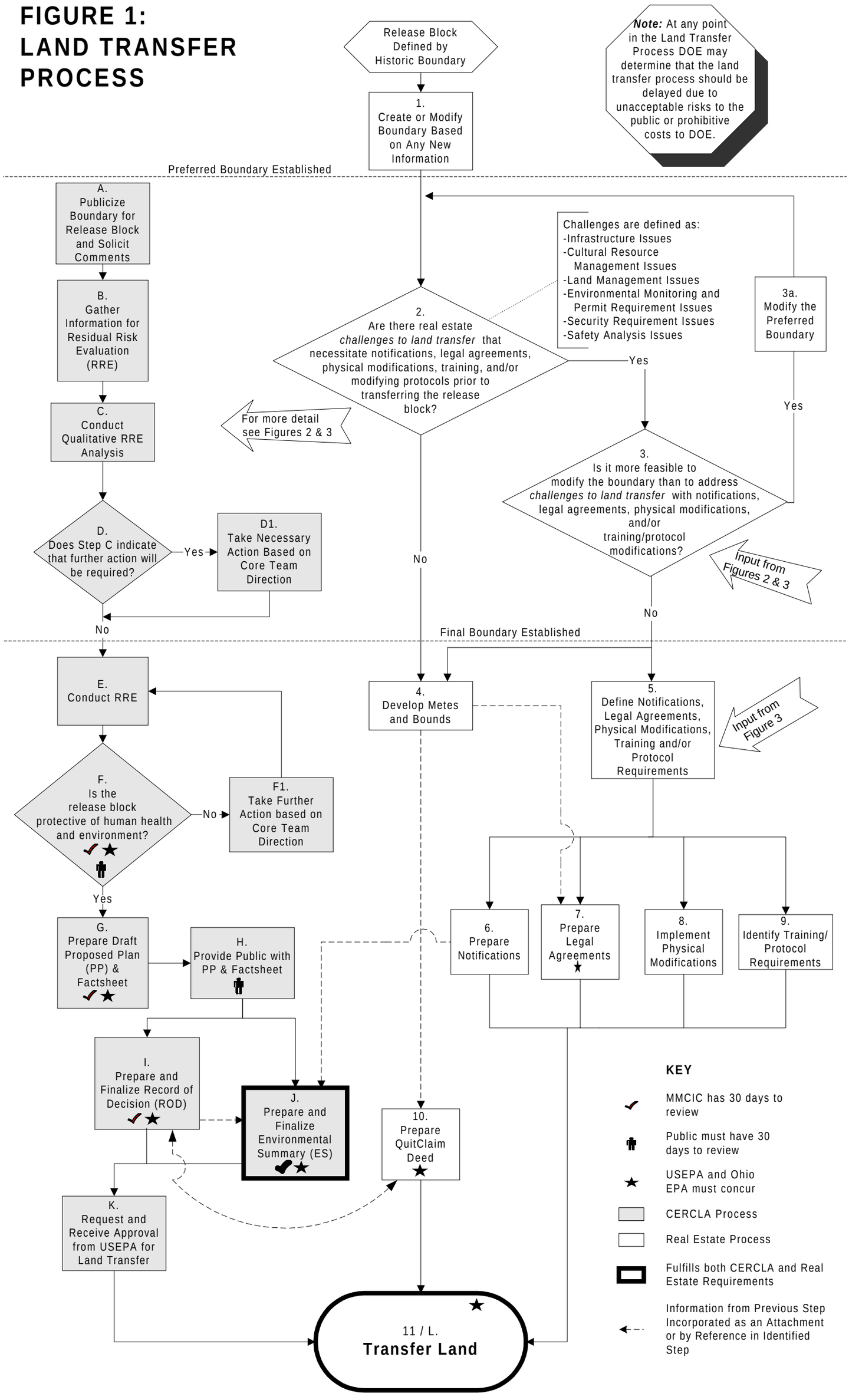


FIGURE 2: Overview of DOE's Considerations for Evaluating Challenges to Land Transfer

(Figure 1: Steps 2&3)

Figure 1: Step 2
Are There Real Estate Challenges to Land Transfer That Necessitate Notifications, Legal Agreements, Physical Modifications, Training, and/or Modifying Protocols Prior to Transferring the Release Block?

Environmental Monitoring and Permit Requirements
(e.g., Does the release block contain air monitoring stations?)
(e.g., Could transferring the parcel affect any DOE air permits?)

Security Requirements
(e.g., Are there any peripheral neighboring buildings that need to be secured because of the land transfer?)

Safety Analysis
(e.g., Is there an increase in risk to the public if the parcel is transferred?)

Cultural Resource Management
(e.g., Does the parcel transfer include historic properties or sacred sites?)

NOTE: The issues are interrelated. Decision-making is an iterative process where one issue may impact the other considerations--therefore need to evaluate and re-evaluate.

Infrastructure: Utility Concerns
(e.g., Is the release block served by any Mound utilities, such as electricity, sanitary/ storm sewer, telephone, alarm system, steam, potable water, brine/chilled water, fire water, fire hydrant, and gas?)

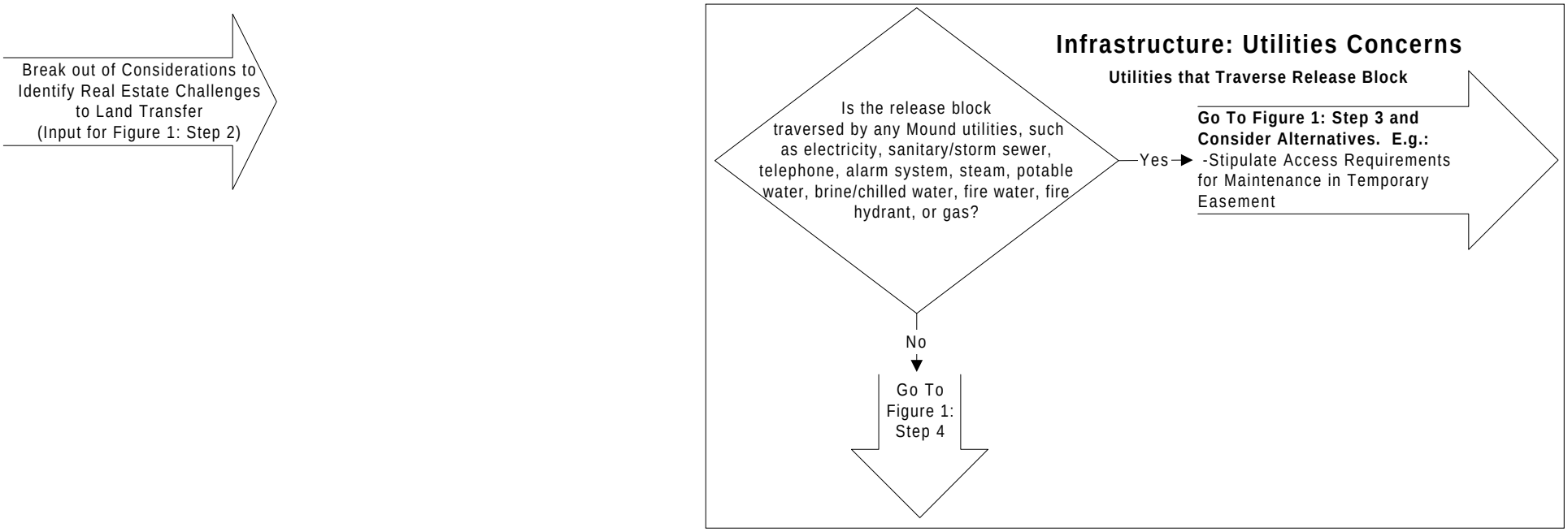
Land Management
(e.g., Are there jurisdictional wetlands in the transferred parcel?)

Infrastructure: Access to Roadways and Parking Lots
(e.g., Are existing roads or parking lots included in the release block?)

See Figure 3 for a detailed evaluation of each issue and possible action alternatives.

FIGURE 3: Break Out of Considerations For Evaluating Real Estate Challenges to Land Transfer

(Break Out of Figure 1: Steps 2 & 3)



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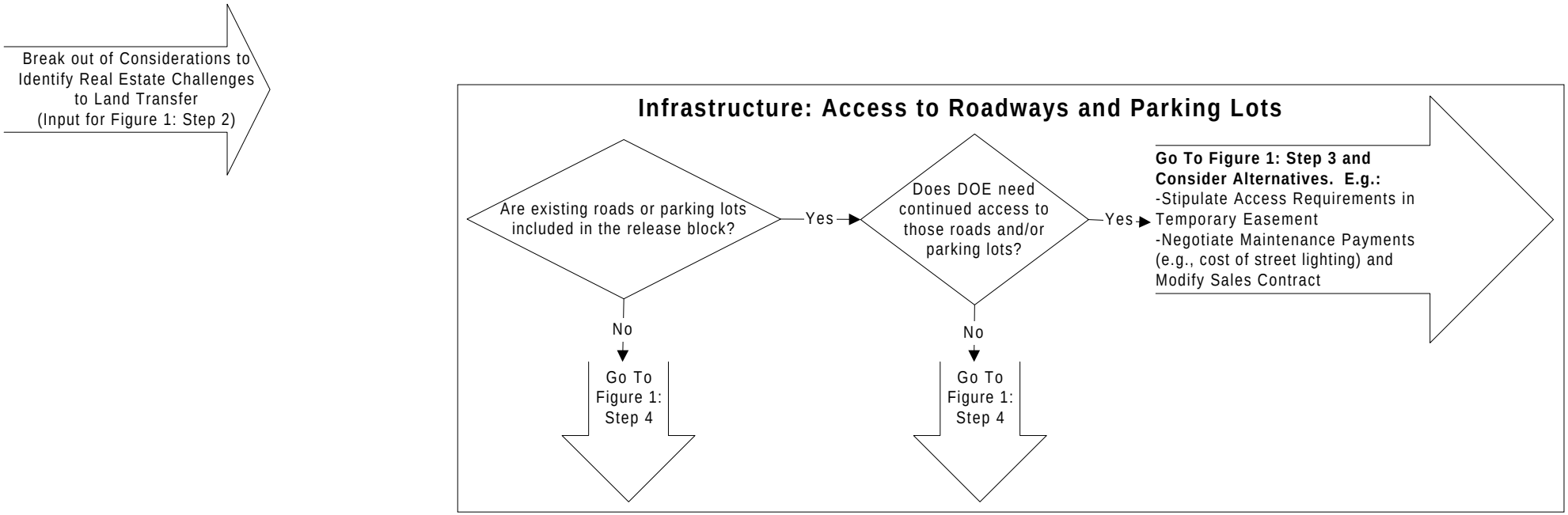

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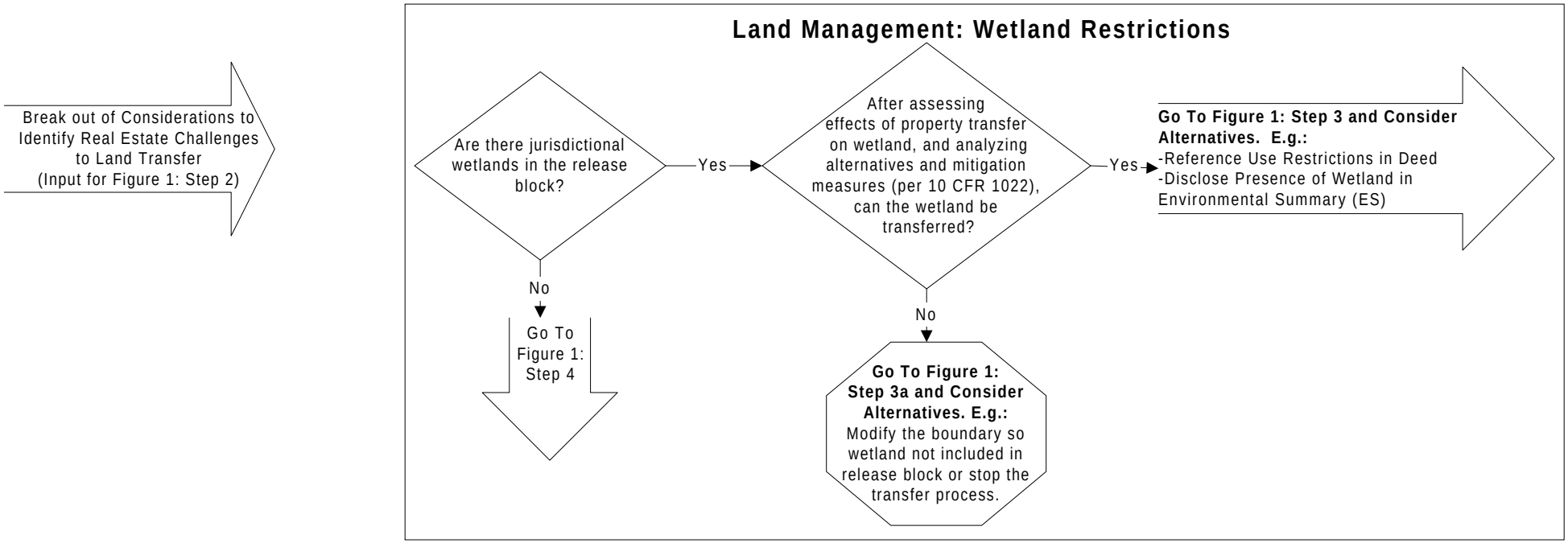

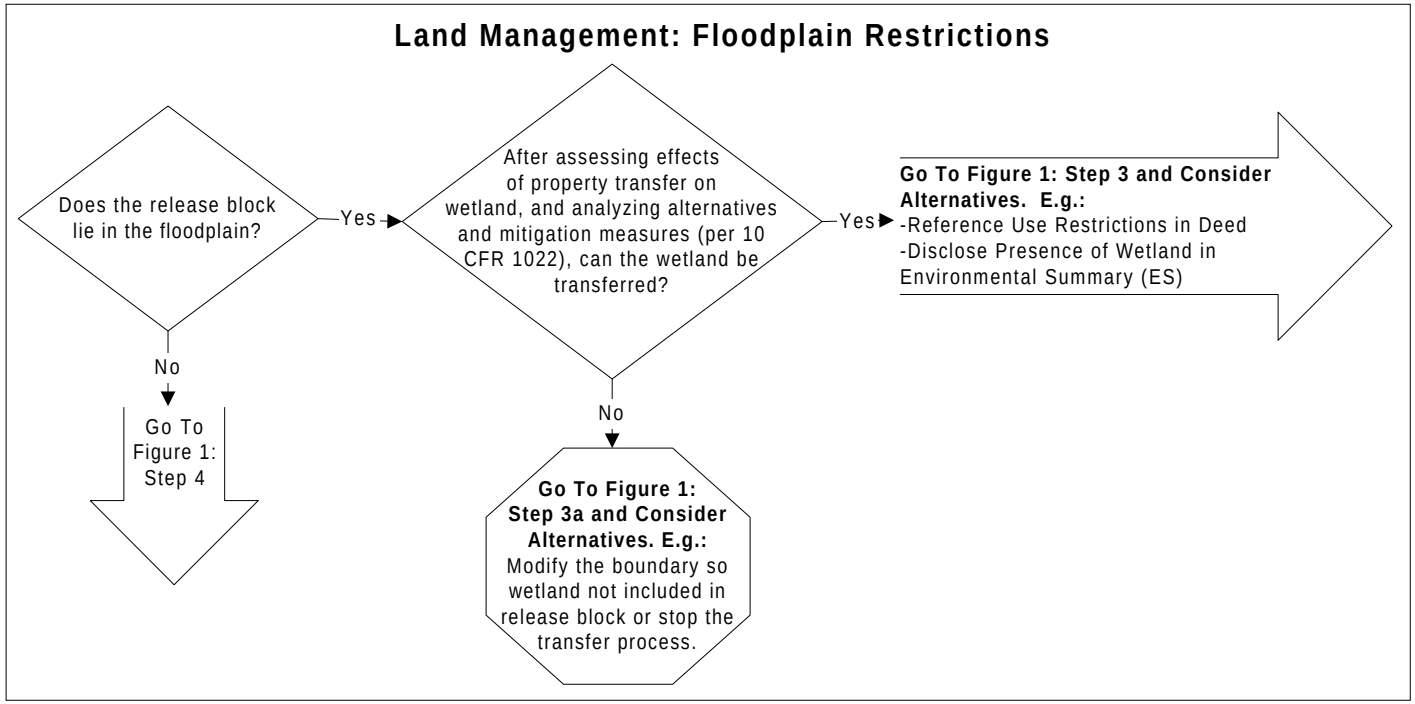

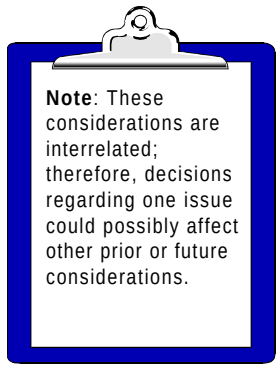

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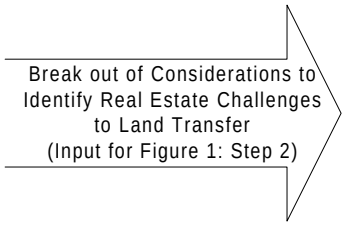

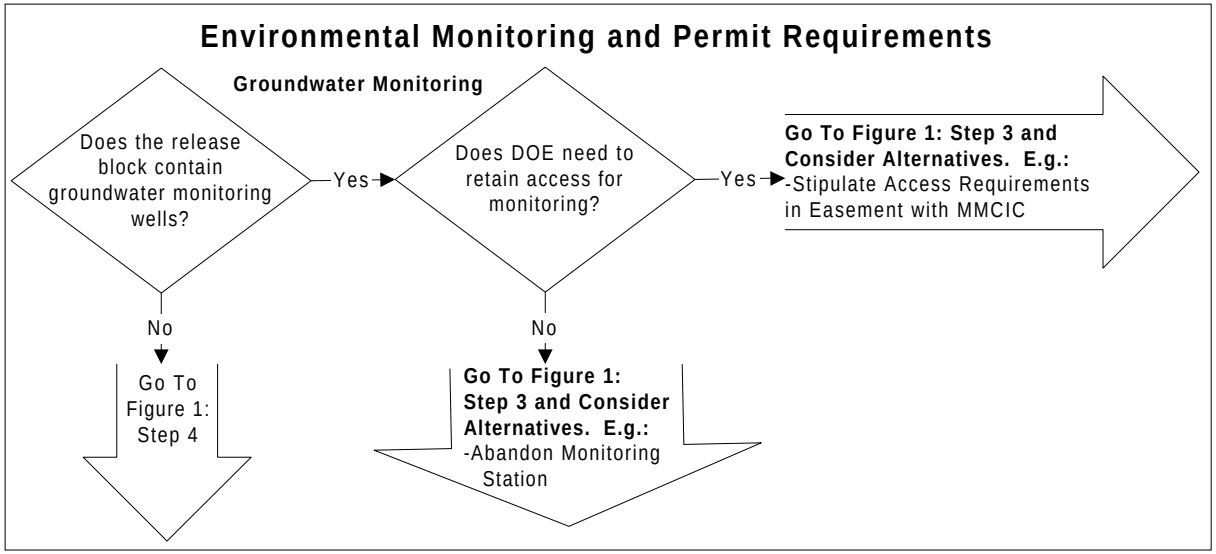

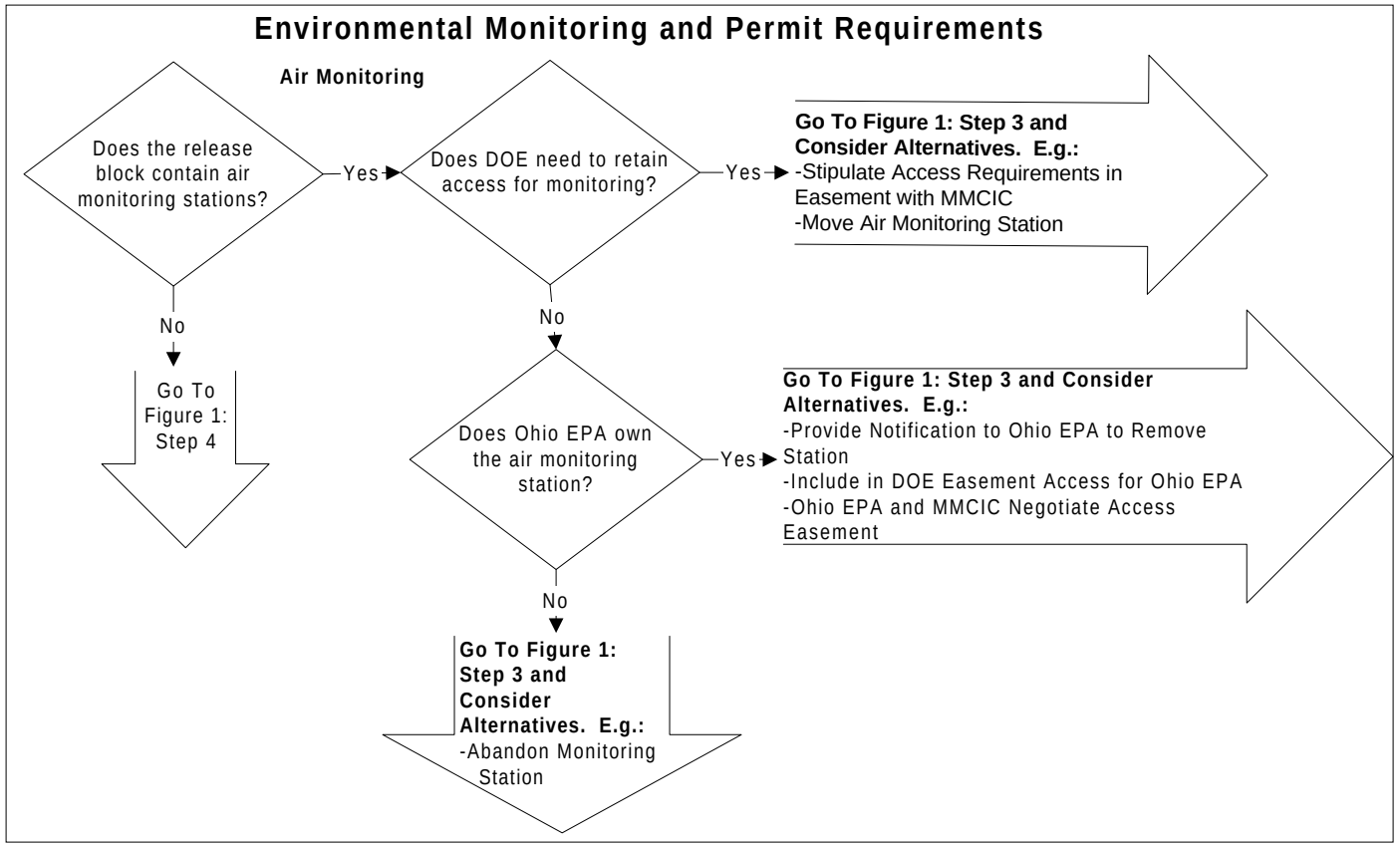

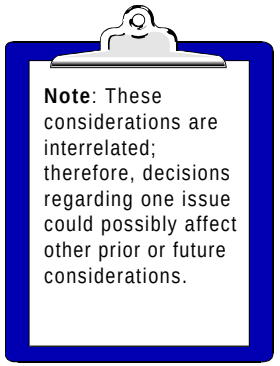

Figure 3 (Continued)

Break out of Considerations to Identify Real Estate Challenges to Land Transfer (Input for Figure 1: Step 2)

Note: These considerations are interrelated; therefore, decisions regarding one issue could possibly affect other prior or future considerations.

Environmental Monitoring and Permit Requirements

RCRA Permit

Does parcel transfer contain any RCRA units?

- No → Go To Figure 1: Step 4
- Yes → Have units been certified closed?
  - No → **STOP** Mound is not transferring RCRA facilities that have not been closed.
  - Yes → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
    -Receive Prior Written Approval from Ohio EPA, Revise Permit, and Disclose RCRA Issues to Buyer

Environmental Monitoring and Permit Requirements

NPDES Permit

Does the release block contain storm and/or sanitary sewers, which feed NPDES permitted outfall?

- No → Go To Figure 1: Step 4
- Yes → Will the Ohio EPA allow modifications to the NPDES permit?
  - No → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
    -Terminate NPDES Permit Accordingly.
  - Yes → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
    -Keep NPDES Permit as Issued to DOE, Modify DOE/MMCIC Utility Agreement, Stipulate MMCIC Requirements to Comply with Permit (DOE maintains liability; not a publicly owned treatment work (POTW), therefore no power to impose pretreatment requirements)
    -Change Permittee of Mound's System to City of Miamisburg (City has liability and power to impose pretreatment requirements since it is a POTW)
    -Require New Owners Hook-Up to City of Miamisburg's Sewer System (City has liability and power to impose pretreatment requirements since it is a POTW)

Figure 3 (Continued)

Break out of Considerations to Identify Real Estate Challenges to Land Transfer (Input for Figure 1: Step 2)

Note: These considerations are interrelated; therefore, decisions regarding one issue could possibly affect other prior or future considerations.

Environmental Monitoring and Permit Requirements

NESHAPs Permit

Does the boundary change require altering the radionuclide air emission limits (stack or diffuse) to ensure protection of the public?

Yes → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
-Modify Limits to Ensure Compliance and Notify USEPA
-Change DOE Operations to Minimize Emissions

No → Go To Figure 1: Step 4

Environmental Monitoring and Permit Requirements

Air Permit

Does the parcel transfer affect any DOE air permits?

Yes → Does the new owner wish to continue permitted activity?

Yes → Will the Ohio EPA allow modifications to the air permit?

Yes → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
-Coordinate with Ohio EPA to Transfer Permits to MMCIC or New Owner
-Coordinate with New Owners to Ensure Compliance with DOE's Permit
-Terminate Air Permit Accordingly

No → Go To Figure 1: Step 4

No → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
-Terminate Air Permit Accordingly.

No → **Go To Figure 1: Step 3 and Consider Alternatives. E.g.:**
-Terminate Air Permit Accordingly.

Figure 3 (Continued)

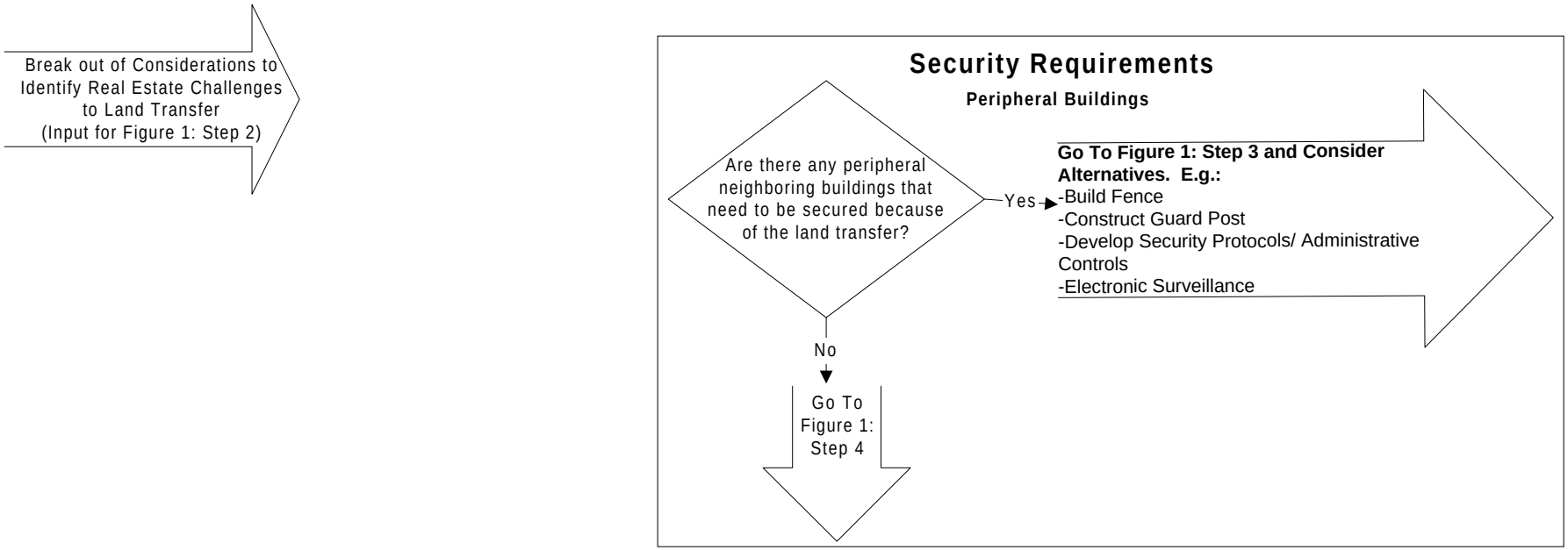

Figure 3 (Continued)

Break out of Considerations to Identify Real Estate Challenges to Land Transfer (Input for Figure 1: Step 2)

Note: These considerations are interrelated; therefore, decisions regarding one issue could possibly affect other prior or future considerations.

Safety Analysis

Risk to Public and General Employees

Is there an increase in risk (based on a sitewide hazards assessment) to the public or the general employees (DOE, leasees) if the parcel is transferred?

Yes ▶

Go To Figure 1: Step 3 and Consider Alternatives. E.g.:

-Modify Emergency Management Protocol and Revise Safety Authority Documents Accordingly
-Disclose in Environmental Summary (ES) Identified Risks
-Restrict MMCIC's Use in Affected Area in Temporary Easement
-Provide Additional Emergency Response and Fire Suppression Capabilities for the Release Block
-MMCIC Coordinates with City of Miamisburg to Provide Emergency Management Services
-Coordinate Training of Emergency Operation Control Personnel from Appropriate Agencies (e.g., DOE, City, MMCIC)
-Based on Characteristics of Materials Posing Risk to Public, Identify Appropriate Warning Systems and First Steps to Handle Emergency Situation
-Alter Inventory or Activities Associated with Materials Contributing to the Risk on DOE Property Adjoining the Release Block
-If there are Risks Due to Fragment Arcs and Clearance Zones (from DOE to new owner or vice versa), then Construct Barricade to Prevent Distribution of Fragments

No ▼

Go To Figure 1: Step 4

Glossary & Acronyms

Bounds

A surveying methodology which uses the placement of monuments, both physical and legal, to describe the geometry of the perimeter of a parcel of land. DOE uses "metes and bounds" to develop the legal description of each release block.

CERCLA Actions

For the purposes of the Mound Land Transfer Process, actions associated with the CERCLA process are defined as removal actions to address contamination problems.

Complications to Land Transfer (associated with the Real Estate process)

For the purposes of the Mound Land Transfer Process, complications to land transfer are defined as:

- Infrastructure Issues (e.g., utilities, access to roadways and parking lots)
- Cultural Resource Management Issues (e.g., buildings of historical significance)
- Land Management Issues (e.g., wetlands, floodplains)
- Environmental Monitoring and Permit Requirement Issues (e.g., air permits, NPDES permit, groundwater monitoring)
- Security Requirement Issues (e.g., perimeter, peripheral neighboring buildings)
- Safety Analysis Issues (e.g., emergency management, explosive operations)

Comprehensive Environmental Response Compensation and Liabilities Act (CERCLA) (42 USC 9601 et seq)

A Federal law, enacted in 1980 and amended in 1986, that governs the cleanup of hazardous, toxic, and radioactive substances. The Act and its amendments created a trust fund, commonly known as Superfund, to finance the investigation and cleanup of releases of hazardous substances. The 1986 amendments included provisions that require DOE and other federal agencies to clean up their facilities under Federal Facility agreements with EPA. Contaminated environmental media. Naturally occurring materials such as soil, sediment, surface water, groundwater, and other in-place materials (e.g., sludge and rubble/debris that have been disposed of and/or intermixed with soil) that are contaminated at levels requiring further assessment to determine whether an environmental restoration action is warranted.

Contaminant of Concern (COC)

Contaminants that have been detected in a release block and, consequently, are included in the RRE for evaluation.

Core Team

The decision-makers at the Mound Facility, consisting of the Department of Energy, the U.S. Environmental Protection Agency, and the Ohio Environmental Protection Agency.

Department of Energy (DOE)

The cabinet-level U.S. Government agency responsible for nuclear weapons production and energy research and the cleanup of hazardous and radioactive waste at its sites. It succeeded the Energy Research and Development Administration and other federal government entities in 1977.

Department of Energy – Miamisburg Environmental Management Project (DOE-Mound)

A division of the U.S. Department of Energy responsible for the activities conducted at the Mound Facility in Miamisburg, Ohio.

Easement

The right to use the land of another for a specific, limited purpose. For example, easements may allow access to maintain utility lines or to use driveways and roads. Easements can be temporary or permanent.

Environmental Summary (ES)

A document that DOE-Mound develops as part of land transfer to fulfill all CERCLA and Real Estate disclosure requirements. The ES contains, by attachment or by reference, the following information:

- *Property description* (including a legal description based on the metes and bounds).
- *Summary of historical uses* of the land.
- *Environmental findings*. Per CERCLA 120 (h), this section must include, to the extent that information is available based on a complete search of DOE files: 1) the type and quantity of hazardous substances stored, disposed of, or released; 2) a notice of the time at which storage disposal or release took place; and 3) description of any remedial action taken.
- *Summary of other factors considered*, based on DOE's generic checklist for transferring land. This includes evaluation of cultural resources, drinking water quality, endangered species, fragment arcs (due to explosive operations), monitoring equipment, evaluation under the National Environmental Policy Act, and regulated units under the Resource Conservation and Recovery Act.

- *Finding of suitability to transfer the land (FOST)*, including a description of any deed restrictions that will be imposed on the property to maintain protection of human health and the environment.
- *Notifications* (e.g., disclosure of wetlands, floodplains, cultural resources) identified in Step 6.
- *The Final Record of Decision.*

Hazard Index (HI)

A summation of all of the chemical-specific hazard quotients to indicate whether the cumulative impact of exposure to multiple contaminants of concern will result in a risk to human health or the environment.

Hazard Quotient (HQ)

A method, approved by the U.S. Environmental Protection Agency, for evaluating potential human health hazards from exposure to non-carcinogenic contaminants. The HQ is determined by the ratio of the intake of a contaminant of concern (COC) to a reference dose or concentration for the COC that is believed to represent a no-observable effect level.

Historic boundary

The boundary of a release block, defined in the past based on DOE's professional judgment of when remedial actions would be complete and which parts of the site DOE would need for continued operations. In order to begin the transfer of a particular release block, this historic boundary must be evaluated (and redefined, if necessary) based on current information and professional judgment.

Industrial land use

The future land use of the Mound Facility property, agreed to by the Department of Energy, the U.S. Environmental Protection Agency, the Ohio Environmental Protection Agency and stakeholders. Industrial land use is a land use category describing land used for manufacturing, processing, warehousing, packaging or treatment of products. It is the core team's responsibility to evaluate the risk to receptors from the exposure to residual contamination in a release block prior to transfer. To evaluate this residual risk, the core team has identified the appropriate exposure pathways, parameters and equations for performing a residual risk evaluation for an industrial future use.

Legal Description (of a release block)

The legal description is a unique method of describing a parcel of land (e.g., a release block) in a way that without ambiguity describes only the subject parcel. The legal description must be developed using methods so that it may survive through time, or be composed in such a way that it is not dependent on elements that may not be available in the future.

Metes

A surveying methodology that uses directions and distances to describe the geometry of the perimeter of a parcel of land. DOE uses “metes and bounds” to develop the legal description of each release block

Memorandum of Agreement (MOA)

An agreement signed by DOE-Mound and MMCIC that establishes their working relationship in the transitioning of the Mound Facility from weapons production to commercial use. This document establishes the intent of DOE-Mound and MMCIC to work collaboratively with each other and with DOE’s regulators.

Miamisburg Mound Community Improvement Corporation (MMCIC)

The MMCIC is a not-for-profit, community improvement corporation organized under Chapters 1724 and 1702 of the Ohio Revised Code. The City of Miamisburg chartered MMCIC with assisting the community in adjusting to the changes resulting from the closure of the Mound Facility by providing economic development. As such, the MMCIC has been designated as an agent of the City of Miamisburg for economic, commercial and industrial development of the Mound Site. Although not employed by the city, MMCIC works closely with the city council.

No Further Action (NFA)

The determination made by the core team at Mound when:

1) a potential release site or building does not pose a risk to human health and the environment, or
2) after action has been successfully completed at a potential release site or building that previously posed an unacceptable risk to human health and the environment (i.e., the potential release site or building no longer poses an unacceptable risk to human health and the environment).

Ohio Environmental Protection Agency (Ohio EPA)

The Ohio Environmental Protection Agency (Ohio EPA) was created on October 23, 1972. It combined under a single agency the functions that previously had been scattered throughout a number of State departments. Ohio EPA has authority to implement laws and regulations regarding air and water quality standards; solid, hazardous and infectious waste disposal standards; water quality planning, supervision of sewage treatment and public drinking water supplies; and cleanup of unregulated hazardous waste sites. Ohio EPA cooperates with government and private agencies, manages some federally funded pollution control projects, obtains technical and laboratory services, establishes advisory boards, investigates environmental problems, and disseminates information on environmental programs. The director also authorizes enforcement actions against violators of pollution laws and regulations.

Operable Unit (OU)

An operable unit is a portion of a site undergoing CERCLA action that is distinguished from other portions of a site based on waste type, the contaminated media, physical separation, or other characteristics. For example, groundwater is often treated as a separate operable unit at sites.

Proposed Plan (PP)

Required by CERCLA Section 117(a), the proposed plan contains the alternative that DOE believes best meets CERCLA requirements in addressing contamination problems at its site (or a portion thereof). Per CERCLA, this document must be presented to the public. DOE-Mound develops a PP for each release block.

Potential Release Site (PRS)

A unique location where a hazardous, radioactive, or mixed waste release has occurred or is suspected to have occurred. It is usually associated with an area where wastes or substances contaminated with wastes have been disposed of, treated, stored, and/or used. Under Comprehensive Environmental Response, Compensation, and Liability Act, sites include both source areas and areas of migration where hazardous substances have come to be located. A site typically includes the actual geographic area covered by a source and the extent of associated contamination as delineated during the Preliminary Assessment/Site Investigation and Remedial Investigation. It may include areas in very close proximity to the contamination that are necessary for implementing a response action.

Real Estate Action Steps

For the purposes of the Mound Land Transfer Process, action steps associated with the Real Estate process are defined as notifications, legal agreements, physical modifications, or training/protocol modifications. These are actions that may be necessary to address complications to land transfer associated with the Real Estate process.

Record of Decision (ROD)

Required by CERCLA, the ROD documents the remedy selected by DOE to address a problem (or multiple problems) at an area of its site. At the Mound Site, a ROD is completed for each release block. All facts, analyses of facts, and site-specific policy determinations considered in the course of carrying out activities to select the remedy must be documented in the ROD. The RODs developed by DOE-Mound include:

- A declaration section. This section summarizes the information presented in the ROD, provides a checklist to certify that key information regarding the selection of the remedy has been included in the ROD, and includes a signature page to formalize USEPA and Ohio EPA approval of the final ROD.

- A decision summary to provide an overview of the site, the evaluated alternatives, the selected remedy, and the basis for its selection.

- A responsiveness summary, which presents stakeholder concerns about the release block (provided during the public review period and the public meeting on the PP) and explains how those concerns were addressed prior to issuance of the ROD.

Release Block

A parcel of land legally defined by metes and bounds that DOE plans to transfer as one unit to a future landlord.

Residual Risk Evaluation (RRE)

The evaluation conducted by DOE-Mound, in consultation with USEPA and Ohio EPA, prior to transferring a parcel of land. The purpose of the RRE is to determine if the cumulative impact of residual contaminants in a parcel of land presents an unacceptable risk to human health and the environment.

Sales Contract

The legal agreement establishing the tem and conditions of the sale of the Mound Facility by the DOE to the MMCIC. The Sales Contract establishes that DOE will convey the entire site to MMCIC in discrete parcels, also referred to as “release blocks.”

QuitClaim Deed

A QuitClaim deed is a deed that transfers ownership of a discrete parcel of land from DOE to a future landlord and establishes that the future landlord will take the land "as is" and "where is." Although the deed does not contain a warranty for the land, DOE maintains responsibility for cleanup if contamination resulting from previous DOE activities (that pose a risk to human health and the environment) is discovered in the future.

United States Environmental Protection Agency (USEPA)

A Federal agency, established in 1970, responsible for enforcing environmental laws including the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); and the Toxic Substances Control Act (TSCA).